REMARKS/ARGUMENTS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments, and the following remarks.

The claims are 1 and 6-14. Claim 1 has been amended to incorporate the subject matter of dependent claims 3 and 5, which have been cancelled without prejudice. Dependent claim 8 has been amended to depend from claim 1 and dependent claim 11 has been amended to depend from claim 10. Claims 6, 7, 9, 10, 12, 13, and 14 have been amended to improve their form. Applicants submit that support for these amendments can be found in the disclosure as originally filed, and therefore no new matter has been added.

The specification has been amended to insert appropriate section headings as suggested by the Examiner and to delete a reference to the claims at page 1 of the specification. A replacement Abstract of the Disclosure is submitted herewith. No new matter has been introduced.

Claims 1, 3, and 5-9 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,246,052 to *Cleveland et al.* Claims 10 and 11 have been rejected under 35

U.S.C. §103(a) as being unpatentable over *Cleveland et al.* in view of U.S. Patent No. 3,982,738 to *Meier et al.* Claims 12 and 14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Cleveland et al.* in view of U.S. Patent No. 5,999,887 to *Giannakopoulos et al.* Claim 13 has been rejected under 35 U.S.C. §103(a) as being unpatentable over *Cleveland et al.* in view of U.S. Patent No. 5,067,346 to *Field.*

Essentially, it was the Examiner's position that *Cleveland et al.* discloses a test table for measuring lateral forces and displacements substantially as recited in claim 1 and including leaf springs having a bias/tensile stress applied to them as recited in claim 3, the test table being essentially attached at the center of the leaf springs as recited in claim 5, the test table being suspended on the leaf springs on a small surface as compared with the length of the leaf springs as recited in claim 6, two leaf springs standing opposite one another in a pair as recited in claim 7, the test table being disposed between several leaf spring pairs disposed next to one another as recited in claim 8, and the leaf springs having a thickness approximately greater than or equal to their lateral deflection as recited in claim 9.

With respect to claims 10 and 11, in the Examiner's view, *Cleveland et al.* discloses a test table having all of the

features recited therein with the exception of the test table being connected to a damping unit as recited in claim 10 and the damping unit being an oil bath being disposed below the test table into which a damping element dips as recited in claim 11. These features were said to be taught by the patent to *Meier et al.* In the Examiner's view, it would have been obvious to one of ordinary skill in the art to incorporate an oil bath damping unit as shown in *Meier et al.* into the test table shown by *Cleveland et al.*

With respect to claims 12 and 14, in the Examiner's view, *Cleveland et al.* discloses a test table substantially as recited therein with the exception of the test table having a sample holder structured to be vertically movable as recited in claim 12 and a measure value acquisition determining lateral force and displacement taking place optically as recited in claim 14. The patent to *Giannakopoulos et al.* was said to disclose these features. In the Examiner's view, it would have been obvious to one of ordinary skill in the art to incorporate a vertically movable sample holder and a optical method of determining displacement and lateral force as taught by *Giannakopoulos et al.* into the test table shown in *Cleveland et al.*

With respect to claim 13, in the Examiner's view, *Cleveland et al.* discloses a test table substantially as recited therein

with the exception of measure acquisition to determine the lateral force and displacement and having a shaft that engages close to the sample. The patent to *Field* was said to show this feature. In the Examiner's view, it would have been obvious to one of ordinary skill in the art to incorporate a shaft close to the sample to measure and record a displacement and a lateral force as taught by *Field* into the test table shown in *Cleveland et al.*

The rejections are respectfully traversed.

As recited in independent claim 1, as amended, Applicants' invention provides a test table for measuring lateral forces and displacements, if necessary with the simultaneous use of normal forces, particularly in nano-indenters as well as in scratch and wear testers. The test table is mounted to be laterally movable and the lateral force and displacement can be determined by way of measured value acquisition.

The test table is attached between at least two leaf springs that stand perpendicular to one another. The leaf springs can be deflected laterally in the direction of the lateral movement of the test table that is to be produced. The leaf springs are attached to a frame at their upper and lower ends and have a bias/tensile stress applied to them. The test table is

essentially attached to a center of the leaf springs between their lower and upper ends.

Applicants respectfully submit that the cited references, considered either alone or in combination, fail to teach or suggest a test table having the structure recited in Applicants' claim 1 or achieving the advantages associated with that structure. In particular, as recited in amended claim 1, Applicants' test table:

> "***is mounted to be laterally movable***"
>
> ...
>
> "***is attached between at least two leaf springs (3) which stand perpendicular and can be deflected laterally in the direction of the lateral (horizontal) movement of the test table that is to be produced***"
>
> ...
>
> "***is essentially attached to a center of the leaf springs (3) between their lower end and their upper end.***"

Moreover, as recited in Applicants' claim 1, the leaf springs "***have a bias/tensile stress applied to them.***"

Cleveland et al. relates to a flexure device 20 having a frame or support structure 22 rigidly attached to and supporting a flexure carriage assembly 24. The translating section 29 of

the flexure carriage 25 according to *Cleveland et al.* (which the Examiner has equated with the test table recited in Applicants' claim 1) however, is not attached between at least two leaf springs which stand perpendicular and can be deflected laterally in the direction of the lateral movement of the test table as recited in Applicants' claim 1. Rather, translating section 29 according to *Cleveland et al.* is mounted to column-like elements 32A-32D. as shown in the drawing figures and described at columns 5-7 therein.

The column-like elements 32A-32D of *Cleveland et al.* are not leaf springs as recited in Applicants' claim 1. In particular, leaf springs generally include a rectangular cross section such that the leaf spring can be deflected in only one direction. In contrast, the column-like elements shown and described in *Cleveland et al.* have a square cross section. The deflection in the structure according to *Cleveland et al.* is not achieved by the geometry of a leaf spring, but rather by means of bendable attachments or flexures 50 provided on the ends of each of the column elements.

Moreover, the column-like members 32A-32D of *Cleveland et al.* are not subjected to a bias/tensile stress applied to them as are the leaf springs recited in Applicants' claim 1. The marked up copy of FIG. 3 of the *Cleveland et al.* reference reproduced

below highlights this difference between Applicants' test table and the assembly disclosed in *Cleveland et al.*

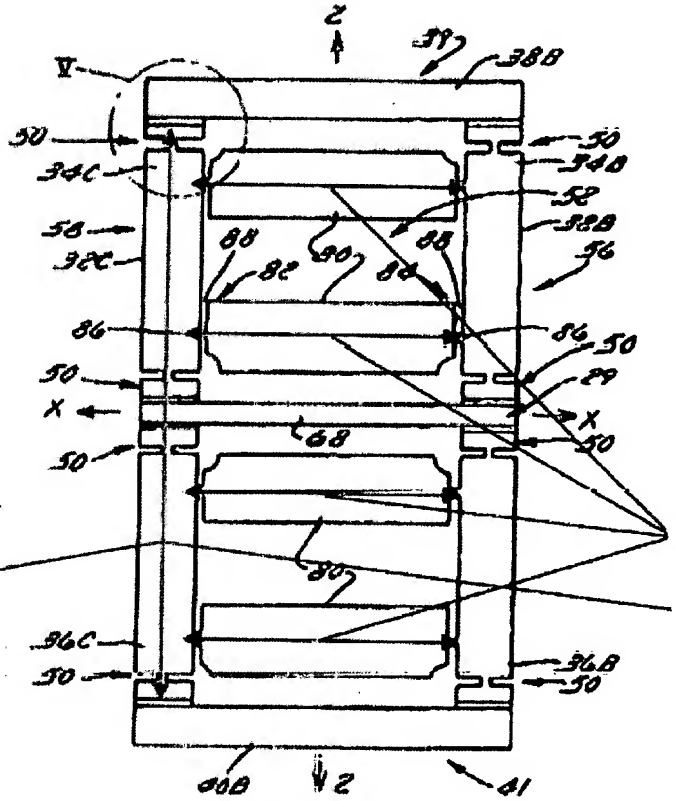

FIG. 3

no axial bias in the Z direction - axial bias would provoke a force in the Z direction - this is not the case here.

Reinforcement beams **80** are connected with column-like elements **32 A - D**. No axial bias is produced.

Furthermore, as recited in pending claim 1, Applicants' test table is attached to a center of the leaf springs between their lower end and their upper end. The flexure carriage in *Cleveland et al.* is not attached to the center of a leaf spring between its lower and upper end as claimed, but rather is clamped between the ends of two column-like elements (32A - 32D and 36A-36D) in each instance.

The defects and deficiencies of the primary reference to *Cleveland et al.* are nowhere remedied by any of the secondary references. *Meier et al.* relates to a completely different device and application, in particular a fluid damper for the balance beam of a portable balance. In the device according to *Meier et al.*, two round coupling elements (tie rods 32) are secured with nuts. The coupling elements of *Meier et al.* are not configured as leaf springs having an bias/tensile stress applied to them. Accordingly, *Meier et al.* fails to teach or suggest a test table which can be deflected in a horizontal direction and is attached between at least two leaf springs that can be deflected laterally in the direction of the lateral (horizontal) movement of the test table as recited in Applicants' claim 1.

The secondary reference to *Giannakopoulos et al.* discloses a method and device for determining the mechanical properties of materials that change in steps. Here again, the test table 24 according to *Giannakopoulos et al.* is not attached to a center of leaf springs having an bias/tensile stress applied to them.

The secondary reference to *Field* relates to a penetrating measurement apparatus including a stage or test table 11 for mounting a material to be tested. There is no teaching or suggestion in *Field* of attaching the stage to the center of at least two leaf springs having a bias/tensile stress applied to

them as recited in Applicants' claim 1.

For the reasons set forth above, there is no disclosure or suggestion of a test table in any of the cited references which, as recited in claim 1 as amended, is attached between at least two leaf springs which stand perpendicular and can be deflected laterally in the direction of the lateral (horizontal) movement of the test table to be produced and is essentially attached to a center of the leaf springs between their lower and upper end, wherein the leaf springs have a bias/tensile stress applied to them.

Accordingly, it is respectfully submitted that independent claim 1 as amended, together with dependent claims 6-14, which depend directly or indirectly on claim 1, are patentable over the cited references.

In summary, claim 1 has been amended to incorporate the subject matter of dependent claims 3 and 5 which have been cancelled without prejudice. Dependent claim 8 has been amended to depend from claim 1 and dependent claim 11 has been amended to depend from claim 10. Claims 6, 7, 9, 10, 12, 13, and 14 have been amended to improve their form. The specification has been amended to include appropriate section headings and a replacement Abstract has been submitted. In view of the foregoing, it is

respectfully requested that the claims be allowed and that this case be passed to issue.

Applicant respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,
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Enclosure(s): Replacement Abstract.

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on June 13, 2007

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